



# APRA Roll-out: Recommendations to Improve Implementation of the Nitrates Directive

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# NVZ Designation

- Improved analytical tools are needed to determine the areas to be included in NVZs:
  - From a cost/risk perspective, improved tools would help to optimize designations to include only those sources that contribute to the nitrates pollution
  - Improvements needed:
    - Vulnerability models linked to nitrate fate and transport models
    - Readily accessible meteorological data
    - Comprehensive inventory of pollution sources, including – for agricultural sources – information on livestock types and number, waste management practices, cropland utilization, fertilizer application rates, and irrigation



# Water and Soil Quality Monitoring

- Existing water and soil monitoring programs not tailored to monitoring of nitrates:
  - Pan-European Soil Survey on 16 km x 16 km scale includes too few sampling points to characterize nitrate vulnerability from number of source areas; e.g., only 0-2 Soil Survey sampling points located within a typical NVZ
  - For nitrates, need to monitor water quality in the NVZ, directly upstream and downstream of the NVZ, and up-gradient and down-gradient from aquifers in the NVZ
- Develop a national water and soil quality monitoring plan based on nitrates monitoring guidance document, applying the design of the Calarasi LAP monitoring program
- Prepare maps delineating NVZs and proposed monitoring points, to be assessed and revised during LAP preparations
- As needed, identify requirements for additional monitoring wells
- Establish a network of mobile labs to support the initial soil and water testing program and LAP monitoring program



# Good Agricultural Practices

- Revise the Code of Good Agricultural Practices to reflect the changes proposed by APRA team
  - Initiate national training program for the Code
  - Develop and implement a national campaign to increase awareness of nitrate problems
- In the Romanian agricultural context, analyze investment and operating costs for the most common agricultural practices
  - To the extent possible, costs should be differentiated for different soil and climate characteristics
  - Ideally, these cost calculations should be incorporated into farm planning spreadsheets that can be used by farmers and local agricultural extension agents
- Extend nitrate fate and transport modelling capabilities to include estimates of nitrate reductions associated with alternative practices
  - Provide opportunity to evaluate environmental and cost-effectiveness of alternative practices
  - Focus should be on large livestock operations and standardized areas of cropland (e.g., 1 km<sup>2</sup>)



# Local Action Programs

- Formalize guidance on the LAP process
- Develop “model” LAP
  - Given the level of analysis already completed for Calarasi, the model could be based on this experience
  - To complete Calarasi LAP, need to organize LSG and formulate action program for the two NVZs
- Determine the number of LAPs that will be required in Romania, considering:
  - Location of NVZs by county and river basin
  - Area covered by respective NVZs
  - Types of farming in NVZs
- Organize a training workshop on LAP development
  - Workshop would cover LAP process, good agricultural practices, and the model LAP
  - Participants would include 2-4 prospective LSG members for each LAP, representing local government, water, and agricultural authorities, plus implementors